

ABSTRACT

A multistage interconnect network (MIN) capable of supporting massive parallel processing, including point-to-point and multicast communications between processor modules (PMs) which are connected to the input and output ports of the network. The network is built using interconnected switch nodes arranged in $2^{\lceil \log_b N \rceil}$ stages, wherein b is the number of switch node input/output ports, N is the number of network input/output ports and $\lceil \log_b N \rceil$ indicates a ceiling function providing the smallest integer not less than $\log_b N$. The additional stages provide additional paths between network input ports and network output ports, thereby enhancing fault tolerance and lessening contention.